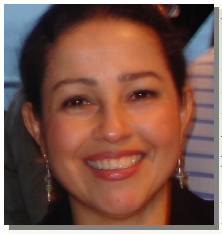
THE PROFILER

Fall 2008

Research Division

From the editor



Welcome to the fifth edition of "**The Profiler**," a newsletter published semi-annually by the MDOT Research Division. Inside you will find happenings of the Division including updates on research projects, upcoming conferences, and from time to time spotlights on equipment. If you have any questions, feel free to contact **Marta Charria at 601.359.7639 or mcharria@mdot.state.ms.us**

Special Points of Interest

- **HMA Selection Guide for Mississippi**
- **Work Program 2009**
- **Pooled funds Projects**
- **Intelligent Compaction Project**
- **Calendar of Events**

Hot Mix Asphalt Mix Selection Guide for Mississippi

By Marta Charria

The Hot Mix Asphalt Mix Selection Guide for Mississippi was developed and completed by L. Allen Cooley, Jr., and Robert S. James of Burns, Cooley & Dennis, Inc., under sponsorship of MDOT. Mississippi's roadway system is vital to the state's economy. As time passes, new and/or improved roadways will be needed in order to attract industry. Hot mix asphalt constitutes the material used to construct and maintain the majority of roadways in Mississippi. However, not all hot mix asphalt performs the same. The objective of this study was to develop a guide for hot mix asphalt selection in Mississippi. The three primary mix types considered include the following:

- Dense-graded hot mix asphalt.
- Stone matrix asphalt.
- Open-graded friction courses.

Recommendations were provided based on pavement layer and traffic category being considered. To view the report go to: http://www.gomdot.com/Divisions/Highways/Resources/Research/pdf/Reports/InterimFinal/SS204.pdf

Or contact **Randy Battey at 601.359.7650 or email** randyb@mdot.state.ms.us

Work Program 2009

On September 18, 2008 the MDOT Research Division met with the MDOT Research Advisory Committee to discuss and approve the budget for **FY 2009**. Eleven new projects were added to the 80% / 20% program.

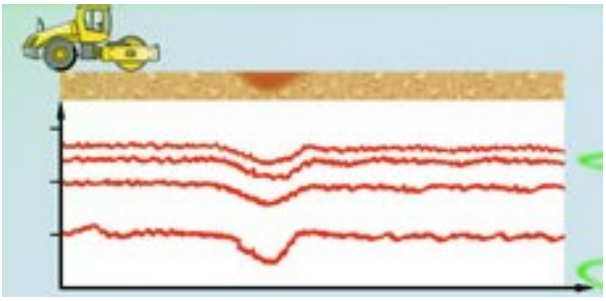
The entire FY 2009 work program can be found at: www.gomdot.com/research/reports.htm

State Study	Study Title	Start Date	Completion Date	Principal Investigator
210	Emergency Evacuation Study for the Greater Jackson Area (Dynasmart-P Development)	10/01/08	06/30/10	Feng Wang
211	Laboratory Testing and Evaluation of Near Surface Properties of Flexible Pavements due to Bituminous Surface Treatments	10/01/08	03/31/13	Isaac Howard
212	Utilization of Rap in Construction (Phase II High Rap Surface Course)	10/01/08	09/30/10	Isaac Howard
213	Performance Evaluation of Roundabouts for Traffic Delay and Crash Reduction in Oxford, MS	10/01/08	03/31/10	Waheed Uddin
214	MDOT Implementation Plan for GPS Technology in Planning, Design, and Construction Delivery	10/01/08	03/31/11	John Hannon
215	Integrated Kudzu Control in Mississippi Roadsides	10/01/08	03/30/12	Mark Weaver
216	Shrinkage and Durability Study of Bridge Deck Concrete	10/01/08	09/30/10	Robert Varner
217	Strain Resistant, Extended Performance Pavements, an Alternate to Sub drainage	10/01/08	03/30/12	Tom White
218	In-House Support to State Study No 217	10/01/08	03/30/12	Jordan Whittington
219	Development of a Method for Estimating Lateral Earth Pressures for Retaining Structures Sited in Expansive Clay Deposits	10/01/08	03/30/12	Chris Saucier Miriam Smith
220	Framework of Calculating the Measures of Resilience (MOR) for Intermodal Transportation Systems	10/01/08	03/30/10	Li Zhang

Pooled Fund Projects with 100% Federal funding for FY 2009

Study Title	Sponsor
Southeast Transportation Research Consortium	Louisiana DOTD
DARWin-Me™ Cooperative Software Development	AASHTO
Analytical Review of Child Mobility Assessments for School Site Programs	Washington State DOT
Concrete Pavement Road Map Operational Support	FHWA

Upcoming Intelligent Compaction Demonstration Project in Mississippi

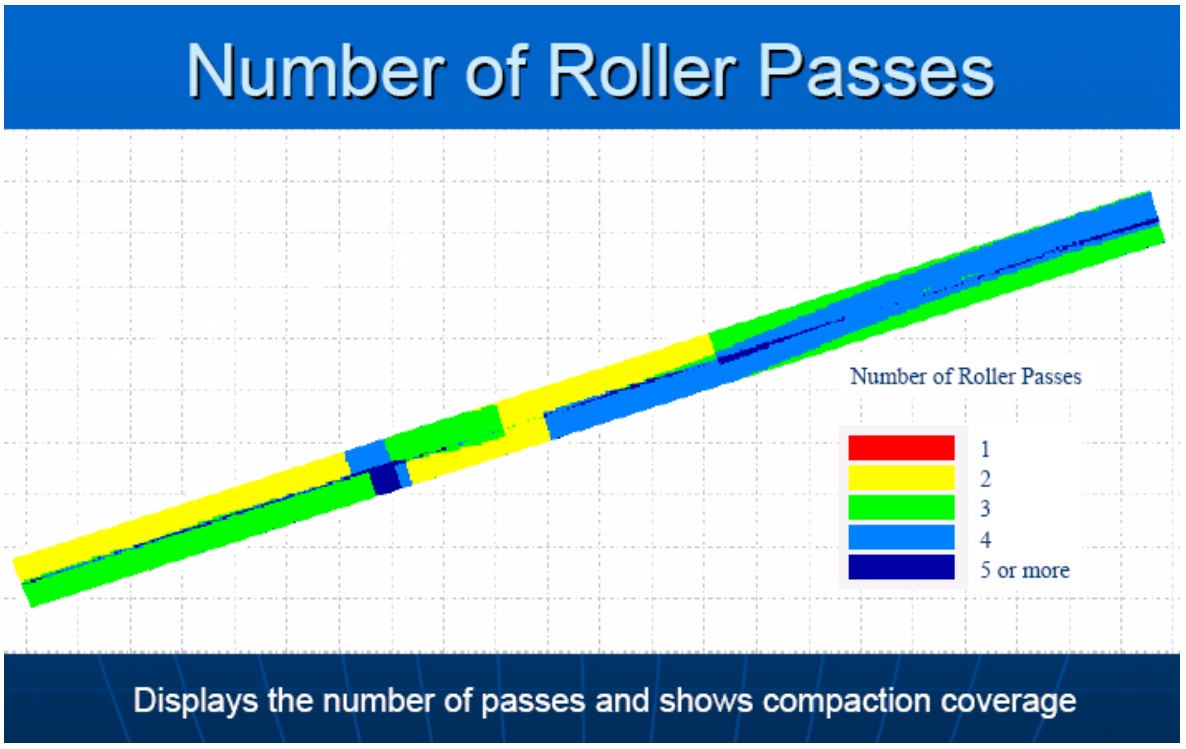


Intelligent Compaction (IC) is the compaction of various road materials, such as soils, aggregate bases, or asphalt pavement materials, using modern vibratory rollers equipped with an in-situ measurement systems and feedback controls. Often, Global Positioning System (GPS) based mapping is included, and software that automates the documentation of results. By integrating measurement, documentation, and control systems, the use of IC rollers allow for real-time corrections in the compaction process. IC rollers also maintain a continuous record of plots that include number of roller passes, roller-generated material stiffness measurements, and the precise location of the roller.

Monitor installed in the roller cabin
asphaltmagazine.com

Compaction is one of the most important processes in roadway construction. It is needed to achieve the highest quality and uniformity of pavement materials, which in turn better ensures long-lasting pavement performance. Pavement materials required optimum uniform densities to achieve adequate support, stability, and strength. Current processes using conventional compaction machines may result in inadequate and/or non-uniform material densities, which can lead to premature pavement failure. IC roller technology has shown promise in achieving optimum densities and avoiding non-uniformity in pavement construction.

With this in mind, MDOT Research is currently participating in an FHWA sponsored pooled fund project titled, "Accelerated Implementation of Intelligent Compaction Technology for Embankment Sub-grade Soils, Aggregate Base, and Asphalt Pavement Materials"
(go to: http://www.intelligentcompaction.com).
As part of this project, MDOT will host a demonstration of this technology on an ongoing highway project sometime during the 2009 construction season. For more information contact **Randy Battey at 601.359.7650 or email randyb@mdot.state.ms.us**



Roller operator's graphical interface displays number of passes in real time
(Graphic courtesy of Sakai America, Inc.)

Calendar of Events

Date	Event	Location
October 26-30, 2008	Road Profiler User's Group Meeting http://www.rpug.org/2008/intro.html	Austin, TX
October 28-30, 2008	Mississippi Transportation Institute (MTI) Conference 2008 http://www.gomdot.com/Home/Events/Conferences/MTI/Home.aspx	Choctaw, MS
November 6-7, 2008	NPHQ 2008 Annual Highway Quality Conference http://www.nphq.org/	San Antonio, TX
November 11-13, 2008	International Conference on Warm Mix Asphalt http://www.warmmixasphalt.com/	Nashville, TN
November 17-20, 2008	2008 Southeastern Asphalt User/Producer Group Meeting http://www.seaupg.org/	Birmingham, AL
January 11-15, 2009	TRB 88th Annual meeting http://trb.org/	Washington, DC
February 8-11, 2009	2009 Louisiana Transportation Conference http://www.ltrc.lsu.edu/ltc_09/	Baton Rouge, LA
April 7-9, 2009	2009 SCAN Conference http://www.pavementse.com/scan/SCAN_2009.htm	Asheville, NC

For more information, you can find us at **http://mdotweb/** under Research Division in the intranet site, or ***www.gomdot.com*** *under Research tab*

MDOT **The Profiler**

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